BTU BUSINESS & TECHNOLOGY UNIVERSITY

DESIGN THINKING

Design Thinking

Welcome to the Design Thinking training module. In this comprehensive training, you will learn the basics of design thinking, including its principles, process, and methodology, as well as some common tools and techniques used in the design thinking approach. By the end of this training, you will have a good understanding of how to apply design thinking in your own work and how to create innovative solutions to complex problems.

Module 1: Introduction to Design Thinking

In this module, you will learn the basics of design thinking, including what it is, why it is important, and how it works.

1.1 What is Design Thinking?

- Definition of Design Thinking
- Benefits of Design Thinking
- Characteristics of Design Thinking
- Comparison with other problem-solving methods

1.2 Why Design Thinking Matters?

- The importance of innovation in today's world
- The limitations of traditional problem-solving methods
- How design thinking can help solve complex problems

1.3 How Does Design Thinking Work?

- The design thinking process
- The role of empathy in design thinking
- The importance of prototyping and iteration in design thinking

Homework assignment:

For this assignment, you will apply the principles and concepts of design thinking to a real-world problem.

Choose a problem you have observed in your everyday life or in your workplace. Use the following prompts to guide your thinking:

1. Describe the problem and the people who are affected by it.

2. Apply the principles of design thinking to the problem. How might you empathize with the people affected by the problem? How might you define the problem statement in a way that is clear and concise? How might you generate ideas to solve the problem?

3. Select one idea from your ideation session and create a prototype that represents a solution to the problem. It can be low-fidelity (e.g., sketches or models made from everyday materials) or high-fidelity (e.g., digital models or 3D-printed models).

4. Test the prototype with people who are affected by the problem. Gather feedback and make improvements to the solution.

Evaluation Criteria:

1. **Problem Description (25%)**
   - The problem is clearly and concisely described
   - The people affected by the problem are identified and described in detail

2. **Application of Design Thinking Principles (25%)**
   - The student demonstrates an understanding of design thinking principles and applies them to the problem
   - The empathy exercise is thoughtful and provides insight into the user experience
   - The problem statement is clearly and concisely defined
   - The ideation session produces a diverse range of ideas

3. **Prototype (25%)**
   - The prototype is well-designed and represents a possible solution to the problem
   - The prototype is either low-fidelity or high-fidelity, depending on the student's skills and resources

4. **Testing and Feedback (25%)**
   - The prototype is tested with people who are affected by the problem
   - Feedback is gathered and used to make improvements to the solution

Total: 100%

Evaluation Criteria

1. Problem Description: The problem is clearly and concisely described, and the people affected by the problem are identified and described in detail.
2. Application of Design Thinking Principles: The student demonstrates an understanding of design thinking principles and applies them to the problem. The empathy exercise provides insight into

the user experience, the problem statement is clearly and concisely defined, and the ideation session produces a diverse range of ideas.
3. Prototype: The prototype is well-designed and represents a possible solution to the problem, and is either low-fidelity or high-fidelity, depending on the student's skills and resources.
4. Testing and Feedback: The prototype is tested with people who are affected by the problem, and feedback is gathered and used to make improvements to the solution.

The total grade for the assignment is 100%, with each evaluation criterion carrying equal weight.

Module 2: The Design Thinking Process

In this module, you will learn about the five stages of the design thinking process, including how to use each stage to create innovative solutions to complex problems.

2.1 Stage 1: Empathize

- Understanding user needs and wants
- Developing empathy for the user
- Methods for gathering user insights

2.2 Stage 2: Define

- Defining the problem statement
- Creating a user persona
- Reframing the problem statement

2.3 Stage 3: Ideate

- Generating ideas through brainstorming
- Using mind maps and other ideation techniques
- Prioritizing ideas through group discussion

2.4 Stage 4: Prototype

- Building and testing prototypes
- Developing low-fidelity and high-fidelity prototypes
- Gathering feedback on prototypes

2.5 Stage 5: Test

- Testing the solution with users
- Gathering feedback and making improvements
- Launching the solution

Homework:

For this assignment, you will apply the five stages of the design thinking process to a real-world problem.

Choose a problem that is important to you or your community. Use the following prompts to guide your thinking:

1. **Empathize (20%)**
- Conduct research to understand the problem and the people who are affected by it.
- Develop a persona to represent a typical user of the product or service.

2. **Define (20%)**
- Use the research findings to define the problem statement.
- Reframe the problem statement to be more specific and actionable.

3. **Ideate (20%)**
- Generate a range of possible solutions to the problem.
- Prioritize the solutions based on their potential to solve the problem.

4. **Prototype (20%)**
- Create a low-fidelity prototype of the most promising solution.
- Test the prototype with users and gather feedback.

5. **Test (20%)**
- Make improvements to the prototype based on user feedback.
- Launch the solution and measure its impact.

Evaluation Criteria:

1. **Empathy (20%)**
- The student demonstrates an understanding of the user's needs and wants.
- The persona is well-developed and represents a typical user of the product or service.

2. **Problem Definition (20%)**
- The problem statement is clearly and concisely defined.
- The problem statement is reframed to be more specific and actionable.

3. **Ideation (20%)**
- A diverse range of ideas is generated to solve the problem.
- The solutions are prioritized based on their potential to solve the problem.

4. **Prototyping (20%)**
- A low-fidelity prototype is created of the most promising solution.
- The prototype is tested with users and feedback is gathered.

5. **Testing and Launch (20%)**
- Improvements are made to the prototype based on user feedback.
- The solution is launched and its impact is measured.

Total: 100%

Module 3: Design Thinking Tools and Techniques

In this module, you will learn about some common tools and techniques used in the design thinking approach, including how to use each tool to create innovative solutions to complex problems.

3.1 Mind Mapping

- The benefits of mind mapping
- How to create a mind map
- When to use mind mapping

3.2 Brainstorming

- The benefits of brainstorming
- How to run a successful brainstorming session
- Tips for generating more ideas

3.3 Prototyping

- The benefits of prototyping
- How to create a low-fidelity prototype
- How to create a high-fidelity prototype

3.4 Storyboarding

- The benefits of storyboarding
- How to create a storyboard
- When to use storyboarding

Homework:

For this assignment, you will apply a design thinking tool or technique to a real-world problem. Choose one of the following tools or techniques:

- Mind Mapping
- Brainstorming
- Prototyping
- Storyboarding

Use the following prompts to guide your thinking:

1. **Describe the problem and the people who are affected by it. (20%)**
- Clearly and concisely describe the problem that you have chosen.
- Identify and describe the people who are affected by the problem.

2. **Apply the design thinking tool or technique to the problem. (50%)**
- Describe the steps you took to use the chosen tool or technique to address the problem.
- Provide examples of the output from the tool or technique that helped you to better understand the problem or generate potential solutions.

3. **Evaluate the effectiveness of the tool or technique. (20%)**
- Explain the strengths and limitations of the chosen tool or technique for the problem you selected.
- Reflect on how you might use this tool or technique in the future.

4. **Presentation and Clarity (10%)**
- The assignment is clearly and professionally written, with no errors in grammar, spelling, or punctuation.
- The assignment is well-organized and easy to follow.

Evaluation Criteria:

1. **Problem Description (20%)**
- The problem is clearly and concisely described
- The people affected by the problem are identified and described in detail

2. **Application of Design Thinking Tool or Technique (50%)**
- The chosen tool or technique is well-applied to the problem
- The student demonstrates an understanding of how to use the tool or technique to generate potential solutions
- Examples of output from the tool or technique are provided

3. **Evaluation of the Effectiveness of the Tool or Technique (20%)**
- The strengths and limitations of the chosen tool or technique are explained
- The reflection on how to use this tool or technique in the future is thoughtful

4. **Presentation and Clarity (10%)**
- The assignment is well-written and free of errors in grammar, spelling, or punctuation
- The assignment is well-organized and easy to follow

Total: 100%

Module 4: Applying Design Thinking

In this module, you will learn how to apply design thinking in your own work, including how to use design thinking to solve complex problems and create innovative solutions.

4.1 Design Thinking in Business

- How design thinking can be used in business
- Examples of successful design thinking in business
- Challenges and limitations of applying design thinking in business

4.2 Design Thinking in Education

- How design thinking can be used in education
- Examples of successful design thinking in education
- Challenges and limitations of applying design thinking in education

4.3 Design Thinking in Healthcare

- How design thinking can be used in healthcare
- Examples of successful design thinking in healthcare
- Challenges and limitations of applying design thinking in healthcare

Homework:

For this assignment, you will apply design thinking principles to a real-world problem in a specific context of your choice. Choose one of the following contexts:

- Business
- Education
- Healthcare

Use the following prompts to guide your thinking:

1. **Describe the problem and the people who are affected by it. (20%)**

- Clearly and concisely describe the problem that you have chosen in the specific context.
- Identify and describe the people who are affected by the problem in this context.

2. **Apply design thinking principles to the problem. (50%)**

- Describe the steps you took to apply design thinking principles to address the problem in the context.
- Provide examples of how empathy, problem definition, ideation, prototyping, and testing can be used in this context.

3. **Evaluate the effectiveness of design thinking in this context. (20%)**

- Explain the strengths and limitations of using design thinking in this context.
- Provide examples of successful applications of design thinking in this context, and discuss the potential impact.

4. **Presentation and Clarity (10%)**

- The assignment is clearly and professionally written, with no errors in grammar, spelling, or punctuation.
- The assignment is well-organized and easy to follow.

Evaluation Criteria:

1. **Problem Description (20%)**

- The problem is clearly and concisely described
- The people affected by the problem are identified and described in detail

2. **Application of Design Thinking Principles (50%)**

- Design thinking principles are well-applied to the problem
- The student demonstrates an understanding of how to use design thinking to generate potential solutions
- Examples of empathy, problem definition, ideation, prototyping, and testing are provided

3. **Evaluation of the Effectiveness of Design Thinking in Context (20%)**

- The strengths and limitations of using design thinking in this context are explained
- Examples of successful applications of design thinking in this context are provided
- The potential impact of using design thinking in this context is discussed

4. **Presentation and Clarity (10%)**

- The assignment is well-written and free of errors in grammar, spelling, or punctuation
- The assignment is well-organized and easy to follow

Total: 100%

Module 5: Conclusion and Next Steps

5.1 Recap of Key Concepts

- A summary of the key concepts covered in the training
- A review of the design thinking process and tools and techniques covered in the training

5.2 Further Resources

- A list of recommended resources for further learning on design thinking
- Books, articles, videos, and online courses that cover design thinking in more depth

5.3 Next Steps

- Tips for applying design thinking in your own work
- Suggestions for how to continue practicing and improving your design thinking skills

5.4 Feedback and Evaluation

- Opportunities for learners to provide feedback on the training
- Evaluation of the training's effectiveness in achieving its learning objectives

Homework:

For this assignment, you will reflect on your learning in this course and create a plan for how you will continue to apply design thinking principles in your work or personal life.

Use the following prompts to guide your thinking:

1. **Reflect on your learning in this course. (40%)**
- Describe the most important things you learned about design thinking in this course.
- Discuss how you plan to apply these principles in your work or personal life.
2. **Create a plan for continuing your design thinking journey. (40%)**
- Describe your goals for continuing to learn and apply design thinking principles.
- Identify resources you plan to use to achieve these goals (e.g., books, articles, courses, workshops, etc.).
3. **Presentation and Clarity (20%)**
- The assignment is clearly and professionally written, with no errors in grammar, spelling, or punctuation.
- The assignment is well-organized and easy to follow.

Evaluation Criteria:

1. **Reflection on Learning (40%)**
- The student clearly articulates the most important things they learned about design thinking in this course.
- The student demonstrates an understanding of how they plan to apply design thinking principles in their work or personal life.
2. **Plan for Continuing Design Thinking Journey (40%)**
- The student has clear and specific goals for continuing to learn and apply design thinking principles.
- The student identifies specific resources they plan to use to achieve these goals.
3. **Presentation and Clarity (20%)**
- The assignment is well-written and free of errors in grammar, spelling, or punctuation.
- The assignment is well-organized and easy to follow.

Total: 100%